



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/944,488	08/30/2001	Warren M. Farnworth	3996US (99-0254)	1571
24247	7590	10/04/2005	EXAMINER	
TRASK BRITT P.O. BOX 2550 SALT LAKE CITY, UT 84110			LUK, EMMANUEL S	
			ART UNIT	PAPER NUMBER
			1722	
DATE MAILED: 10/04/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/944,488

Applicant(s)

FARNWORTH, WARREN M.

Examiner

Emmanuel S. Luk

Art Unit

1722

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 June 2005.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 and 51-66 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☒ Claim(s) 17-31 and 51-66 is/are allowed.
6) ☒ Claim(s) 1-16 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1, 2, 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable by Weber (5609889) in view of Rano, Jr. et al (5286426).

Weber teaches a first platen (22) and second platen (23') wherein an alignment recess (51;51A) are provided for allowing alignment of the individual electronic component assemblies within the cavities (25;27).

Weber fails to teach a plurality of cavities.

Rano teaches the claimed apparatus having a first platen (20) with a plurality of shallow recesses (24), the sets of alignment elements for engaging sets of alignment features of a like electronic component assembly and a second platen (22) having a

plurality of spaced locations corresponding to the first platen (20), including sets of alignment receptacles (68). The alignment elements are pins (38).

Rano teaches a plurality of alignment elements (42) projecting from the first platen that are received from a plurality of alignment element receptacles (66) on the second platen. The alignment elements in Rano allows for the plurality of shallow recesses to be aligned with the plurality of mutually spaced locations and teaches additional alignment assemblies in the form of pilot holes (18) are provided on the assemblies to allow for guide pins (50) to cooperatively align the elements. Rano teaches these alignment assemblies that project adjacent to several of the recesses, and it would be a duplication of parts on the platen to have an alignment element for each of the plurality of shallow recesses that would thereby allow for aligning each assembly.

Weber already teaches alignment elements within the recess, thus it would have been obvious to utilize the alignment elements of Rano into Weber for the same function.

It would have been obvious to one of ordinary skill in the art to modify Weber with a plurality of cavities as taught by Rano thereby ensuring a plurality of electronic component assemblies can be manufactured.

4. Claims 3 and 6-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rano, Jr. et al (5286426) as applied to claim 1, and further in view of Steijer et al (5985185).

Weber fails to teach a clamping element and further subdivision of subcavities.

Steijer et al teaches the claimed apparatus having a first platen (1) with a plurality of alignment elements projecting therefrom (73, 85), the sets of alignment elements for engaging sets of alignment features of a like electronic component assembly and a second platen (17) having a plurality of spaced locations corresponding to the first platen (19), including sets of alignment receptacles (87). The alignment are pins and there at least two alignment elements located adjacent each component cavity (Fig. 1). The first and second plates are releasably securable via clamping structure (Col. 9, lines 27-34 and 38-45). It would have been obvious to one of ordinary skill in the art to modify Weber, as modified by Rano, with the clamping element as taught by Steijer because it allows for better alignment and thus improved molding by the apparatus.

In regards to the multiple subcavities, Rano teaches producing encapsulation of semiconductor members in a mold cavity between a first and second plate and it would have been obvious to one skilled in the art for modifying the apparatus with multiple cavities for a multiplied effect. *In re Harza*, 124 USPQ378 (CCPA 1960).

Allowable Subject Matter

5. Claims 17-31 and 51-66 are allowed.
6. The following is an examiner's statement of reasons for allowance: The prior art of record fails to teach a stereolithography machine having a first and second platen having sets of alignment elements and a plurality of cavities that engage the platen assembly support structure, the system further having a computer for and machine

Art Unit: 1722

vision system for controlling the stereolithography system. In claim 51, the system enables inversion of the platen assembly via rotation about a horizontal axis. The closest prior art, Rano et al, Farnsworth et al, Steijer et al and Chang et al, fail to teach this arrangement of the platen structure located in a stereolithography apparatus.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

7. Applicant's arguments filed 6/29/05 have been fully considered but they are not persuasive. The applicant's argument concerning the 35 U.S.C. 103(a) rejections of claims 1, 2, 4 and 5 under Rano and the 35 U.S.C. 103(a) rejection of claims 3 and 6-16 have been considered but are not persuasive. A new reference, Weber, have been utilized to show that the incorporation of alignment elements within the recess itself is known in the arts. This feature taught by Weber combined with Rano teaches the claimed apparatus. The references are relevant since both references pertain to the molding arts, in addition to Steijer. In regards to the arguments pertaining to claims 6, 8, 10-12, and 14, it is obvious that the duplication of parts (here, having multiple subcavities) will result in a multiplied effect of allowing plural articles to be molded. The strut members merely cause plural subcavities to be formed.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emmanuel S. Luk whose telephone number is (571) 272-1134. The examiner can normally be reached on Monday-Thursday 8 to 5 and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Davis can be reached on (571) 272-1129. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

EL

DUANE SMITH
PRIMARY EXAMINER

D - M
9-29-05